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EVALUATION OF THE TARGETED ENLISTMENT BONUS (TEB) FOR NUCLEAR FIELD RECRUITS

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This research memorandum contains the last of three evaluations of the Targeted Enlistment Bonus (TEB) for Nuclear Field recruits. The TEB differs from previous enlistment bonuses by varying the bonus amounts according to the season a recruit begins active duty. Historically, Nuclear Field accessions have been characterized by a seasonal surge in the summer months, reflecting the presence of many Nuclear Field recruits for beginning service shortly after obtaining a high school diploma. The TEB is designed to assist recruiters in achieving a more level flow of accessions during the year. It was tested during the 18-month period from October 1985 through March 1987. For the evaluation, Nuclear Field recruits during this period are compared to those of previous years in terms of the phasing of accessions and enlistment contracts, and indicators of recruit quality. Savings associated with the TEB experiment are calculated, and implications for potential changes in the TEB are drawn.

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1. Enclosure (1) is forwarded as a matter of possible interest.

2. This Research Memorandum contains the final of three evaluations of the Targeted Enlistment Bonus (TEB) for Nuclear Field recruits. The TEB test was designed to assist recruiters in obtaining a more level flow of accessions during the period from October 1985 through March 1987. Nuclear Field recruits during this period are compared to those of previous years in terms of the phasing of accessions and enlistment contracts, and indicators of recruit quality. Savings associated with the TEB test are calculated, and implications for possible changes in the TEB are drawn.

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EVALUATION OF THE TARGETED ENLISTMENT BONUS (TEB) FOR NUCLEAR FIELD RECRUITS

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ABSTRACT

This research memorandum contains the last of three evaluations of the Targeted Enlistment Bonus (TEB) for Nuclear Field recruits. The TEB differs from previous enlistment bonuses by varying the bonus amounts according to the season a recruit begins active duty. Historically, Nuclear Field accessions have been characterized by a seasonal surge in the summer months, reflecting the presence of many Nuclear Field recruits for beginning service shortly after obtaining a high school diploma. The TEB is designed to assist recruiters in achieving a more level flow of accessions during the year. It was tested during the 18-month period from October 1985 through March 1987. For the evaluation, Nuclear Field recruits during this period are compared to those of previous years in terms of the phasing of accessions and enlistment contracts, and indicators of recruit quality. Savings associated with the TEB experiment are calculated, and implications for potential changes in the TEB are drawn.

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INTRODUCTION

The Targeted Enlistment Bonus (TEB) for Nuclear Field (NF) recruits was an 18-month experiment, initiated in October 1985, that offered different enlistment bonuses (EBs) to NF recruits depending on the season of the year in which they began active duty. The seasonally variable TEB ranged from a low of $3,750 for accession in the summer months (June, July, and August) to a high of $6,000 for accession in the spring months (March, April, and May).[1] Before the TEB, the amount of the NF EB was independent of the date of accession. The NF EB was increased from $2,000 to $4,000 in September 1984, and again to $5,000 in January 1985. The latter increase was intended to help recruiters increase spring 1985 accessions and obtain a less seasonal pattern of accessions. This unsuccessful attempt to level-load NF accessions led to the implementation of the TEB.

CNA was tasked by OP-01 to evaluate the effectiveness of the TEB experiment in level-loading the flow of NF accessions.[2] The questions addressed in the evaluation are the following:

- To what extent did NF accessions become less seasonal during the period of the TEB? This is the basic question. To be considered successful, the experiment must demonstrate the desired change in the seasonal pattern of accessions.

- Is the TEB cost-effective relative to the nontargeted EB? How might the cost-effectiveness of the TEB be improved?

- How was the Delayed Entry Program (DEP)[3] for the NF affected by the experiment? Achieving a more level-loaded profile with direct ship recruits is less desirable, other things being equal, because of the screening function of the DEP.

- Was any change in the average education, aptitude, or age of NF recruits evident during the TEB? Accession of less-qualified recruits would reduce the advantage of a level-loaded profile.

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1. The fall (September, October, and November) TEB was $4,500 and the winter (December, January, and February) TEB was $5,250.
2. Two preliminary evaluations are contained in [1] and [2].
3. The DEP allows recruits to sign an enlistment contract and begin active duty up to one year later. For this research, recruits who sign an enlistment contract and access in the same month are called direct shipments, as opposed to shipments from the DEP.

- To what extent can the results of the experiment be attributed to the monetary differences associated with the TEB? Other factors cannot be held constant in tests like this where external factors affecting enlistments are uncontrollable. Given the short period of the test, and the number and significance of changing external factors, reliable estimates of the behavioral effect of the TEB are difficult to obtain.

ACCESSIONS AND THE ACCESSION GOAL: THE BASIC EVIDENCE

The accession goal provides an important means for allocating recruiting resources to accessions in different seasons. Before the TEB experiment, the accession goal and accessions were quite close. One of the primary means of encouraging a more level monthly pattern of accessions is reducing the seasonal fluctuation in the pattern of the accession goal. The implementation of the TEB in FY 1986 was not originally accompanied by such a change, but the monthly goals, especially for the spring months, have been adjusted upward to reflect actual recruiting performance.

Outside the context of the TEB test, NF accessions have been constrained by planning considerations. But during the winter and spring of FY 1986, recruiters were not limited by existing goals. Rather, in line with the objectives of the test, they were encouraged to access as many NF recruits as possible in the winter and spring. Summer accession goals (and accessions) were reduced to keep actual accessions from exceeding the plan for FY 1986. Unlike the previous year, FY 1987 accessions have been limited by goals that require less seasonality in NF accessions. All monthly FY 1987 NF accession goals have been or will be achieved, but not significantly exceeded.

Figure 1 plots the NF accession goal from October 1981 through September 1988. The goal reflects adjustments based on actual recruiting performance during the winter and spring of FY 1986. The figure clearly illustrates the reduced variation of the seasonal pattern that was the objective of the TEB test. A slight reduction in average monthly accessions (relative to 1984 and 1985) accompanied the reduction in seasonal variability in 1986 and 1987. The primary challenge in the reduction of seasonal variation is the extent to which the spring trough can be increased. The 1987 and 1988 accession goals for the spring are, respectively, about 160 and 400 recruits greater than the goals for the same period in 1984 and 1985.

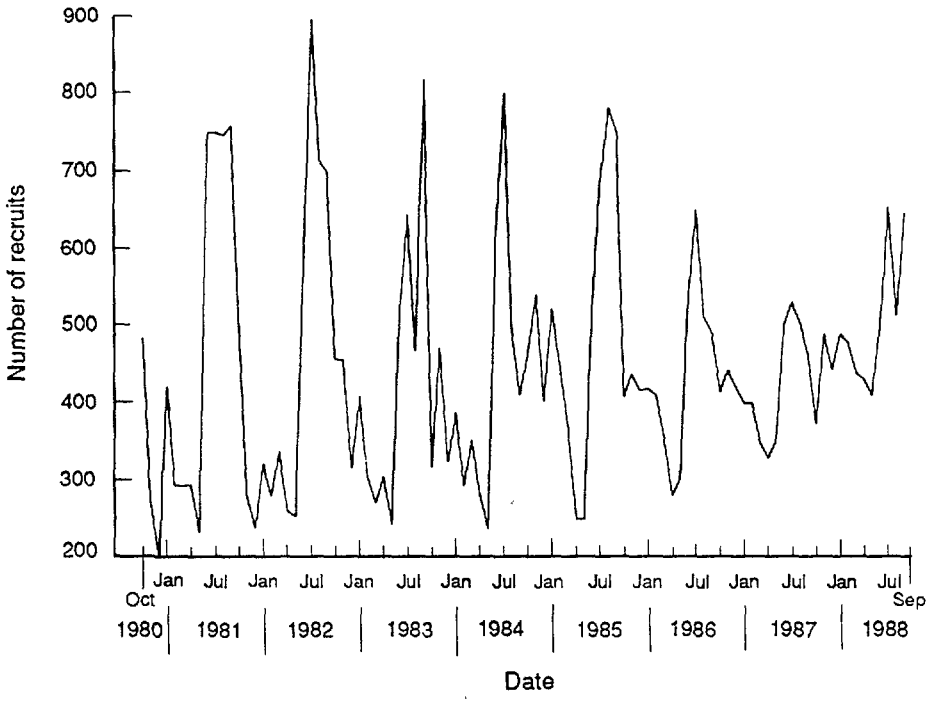

FIG. 1: NUCLEAR FIELD ACCESSION GOAL

Quantifying the Change in Seasonal Pattern

Table 1 presents the NF accession goals for FYs 1985 through 1988. Planned accessions for the peak months of June through August in FY 1987 have been reduced to 29.5 percent of total accessions from 33.2 percent of FY 1985 accessions. Spring accessions for FY 1987 have increased to 19.8 percent of the total from 14.6 percent in FY 1985. Preliminary FY 1988 accession goals show an even greater reduction in the seasonal pattern (21.8 percent for spring accessions and 28.5 percent for summer accessions.)

TABLE 1

NUCLEAR FIELD ACCESSION GOAL, FY 1985-FY 1988

Month	FY 1985 goal (percentage of total)		FY 1986 goal (percentage of total)		FY 1987 goal (percentage of total)		FY 1988 goal[a] (percentage of total	
October	461	(7.7)	408	(7.8)	414	(8.1)	373	(6.4)
November	540	(9.0)	436	(8.4)	441	(8.7)	488	(8.3)
December	402	(6.7)	416	(8.0)	420	(8.2)	442	(7.5)
January	520	(8.7)	418	(8.0)	400	(7.8)	488	(8.3)
February	446	(7.5)	410	(7.9)	400	(7.8)	478	(8.2)
March	371	(6.2)	355	(6.8)	350	(6.9)	438	(7.5)
April	250	(4.2)	281	(5.4)	330	(6.5)	430	(7.3)
May	250	(4.2)	302	(5.8)	350	(6.9)	410	(7.0)
June	517	(8.6)	532	(10.2)	500	(9.8)	502	(8.6)
July	687	(11.5)	650	(12.5)	530	(10.4)	654	(11.1)
August	783	(13.1)	510	(9.8)	502	(9.8)	513	(9.8)
September	698	(12.8)	489	(9.4)	463	(9.1)	646	(11.0)
Total	5,465	(100.0)	5,207	(100.0)	5,100	(100.0)	5,862	(100.0)

a. Preliminary.

Perhaps the most common method of characterizing seasonal patterns in economic and demographic data is the Census X-11 procedure used by the U.S. government.[1] One way to present the seasonal pattern is in terms of seasonal factors, which measure relative accession goals, normalized to average 100 over a year. Seasonal factors greater than 100 indicate months with relatively large goals, while factors smaller than 100 indicate small goals.

Table 2 presents the Census X-11 seasonal factors for NF accession goals from January 1974 through December 1987. (The historical data are presented in appendix A.) As measured by these factors, the degree of seasonality is high, though there is a significant long-term decline in the seasonality of the NF accession goal dating from 1979. One indicator of the reduction in seasonality is the ratio of the largest seasonal factor to the smallest. In 1974, this ratio was 3.47 (166.0/47.8); that is, the estimated seasonal component of the month-to-month variance in accessions for 1974 covered a range of about 3.5 to 1. This range

1. The Census X-11 procedure was developed at the U.S. Bureau of the Census. It is applied here by way of its implementation in the SAS ETS computer software [3], which contains a description of the technique.

TABLE 2

CENSUS X-11 SEASONAL FACTORS FOR NUCLEAR FIELD ACCESSION GOAL

Fiscal Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
1974	96.4	77.3	67.1	63.8	52.2	132.7	162.2	166.0	158.9	105.6	70.7	47.8	100.0
1975	96.6	76.2	66.5	63.3	51.6	133.1	162.7	166.5	160.3	106.5	71.0	48.0	100.2
1976	95.9	73.8	65.2	62.9	50.9	134.7	162.9	166.5	162.6	108.1	71.7	48.1	100.3
1977	94.8	70.4	63.9	62.5	50.5	135.6	163.5	166.6	165.2	108.8	72.9	48.6	100.3
1978	93.5	67.1	63.0	62.4	50.3	136.4	164.0	166.4	166.7	109.3	74.6	49.1	100.2
1979	91.7	64.8	63.7	62.3	50.7	134.8	166.2	165.2	165.9	108.1	77.6	51.1	100.2
1980	89.6	64.0	65.0	63.1	52.1	133.2	167.6	160.5	162.5	106.1	82.5	54.5	100.1
1981	88.1	64.6	67.9	64.3	53.7	131.0	169.0	152.0	157.0	102.8	88.7	59.7	99.9
1982	88.6	67.5	70.8	64.9	55.1	129.3	167.9	142.0	152.0	99.4	94.2	66.2	99.8
1983	89.6	71.8	74.3	64.6	56.7	127.3	166.6	132.5	145.4	96.1	98.3	73.7	99.7
1984	91.4	77.3	76.5	65.1	59.7	125.5	161.1	125.3	139.0	93.4	101.2	80.8	99.7
1985	93.1	82.4	78.7	66.4	63.8	122.7	155.0	120.0	133.0	91.9	102.9	86.4	99.9
1986	95.2	87.3	79.7	68.2	67.8	119.2	147.4	118.3	130.7	91.0	103.2	90.0	99.8
1987	95.9	90.4	80.7	69.7	71.3	115.9	142.9	117.9	128.0	90.8	102.9	92.1	99.9
Average	93.3	76.3	71.5	65.3	58.4	127.4	158.6	143.9	148.7	100.6	87.7	66.0	

declined slowly, but steadily, until 1983. From 1983 to 1987, this measure of the reduction in seasonality showed much greater decline than in the previous nine years. From 1985 (before the TEB) to 1987 (at the end of the TEB experiment), the range of estimated seasonal factors fell from a ratio of 2.43:1 to a ratio of 2.05:1.

On the other hand, the average seasonal component for the months of June through September from 1984 to 1987 changes from 137.7 to 126.2. At an annual rate of 5,500 accessions, this result implies a reduction of about 220 accessions during the peak of summer and early fall. Using the FY 1987 seasonal factors, about 40 percent of these accessions would be rephased into March, April, and May (relative to the 1984 seasonal pattern). The preliminary FY 1988 NF plan is much more ambitious with respect to spring accessions than the FY 1987 experience.

The desired change in the seasonal pattern of accessions has been achieved, at least qualitatively. The extent to which this change can be attributed to the operation of the TEB is examined later. The change may, for example, be associated with other changes in the recruiting environment or with an increase in the level of recruiting effort devoted to NF recruits.

Cost-Effectiveness of the TEB

The cost-effectiveness of the TEB is judged relative to its predecessor, the $5,000 EB independent of the season of entry. For the TEB to save bonus expenditures, it must pay an average bonus less than $5,000. This may be sufficient for the program to be judged successful.[1]

For the FY 1987 accession goals in table 1--which will be achieved--the TEB yields total expenditures of $24.26 million, for an average bonus of $4,757. This represents a savings of $1.24 million in FY 1987 relative to the $5,000 EB paid, regardless of accession month (assuming that the desired phasing of accessions could be achieved with either bonus). Current accession plans for FY 1988 yield an average TEB of $4,790 at a savings of $1.21 million.

1. The efficacy of attempting to level-load accessions is not being evaluated. Training and wage cost issues are not addressed. The desirability of some degree of level-loading of accessions relative to historical patterns is presumed. Some evidence on training times is presented in appendix B.

DEP EXPERIENCE OF NF ACCESSIONS

The DEP is an important indicator of recruiting success. Changes in the number, quality composition, and phasing of DEP recruits provide measures of NF recruiting performance during the period of the TEB. This section compares the size and phasing of the NF DEP during the TEB test to preceding years.[1] As noted earlier, observed changes cannot be attributed solely to the pecuniary characteristics of the TEB.

Figure 2 shows the size of the NF and active duty DEP at the end of each fiscal year from 1979 through 1986. The size of the NF DEP in May 1987 is also plotted as the value for 1987.[2] The growth of the NF DEP during FY 1986 was similar in absolute magnitude to the growth during FY 1982. The size of the NF DEP has fallen slightly since the end of FY 1986. This reflects a recruiting policy decision, and is not associated with a change in the TEB or other changes in the recruiting environment. A larger NF DEP would probably have been observed in the absence of this decision. As of May 1987, 61 percent of the next 12 months' accession goal was in the DEP. By comparison, in May 1983, at the peak of Navy recruiting success, 57 percent of planned accessions for the next 12 months were in the DEP.

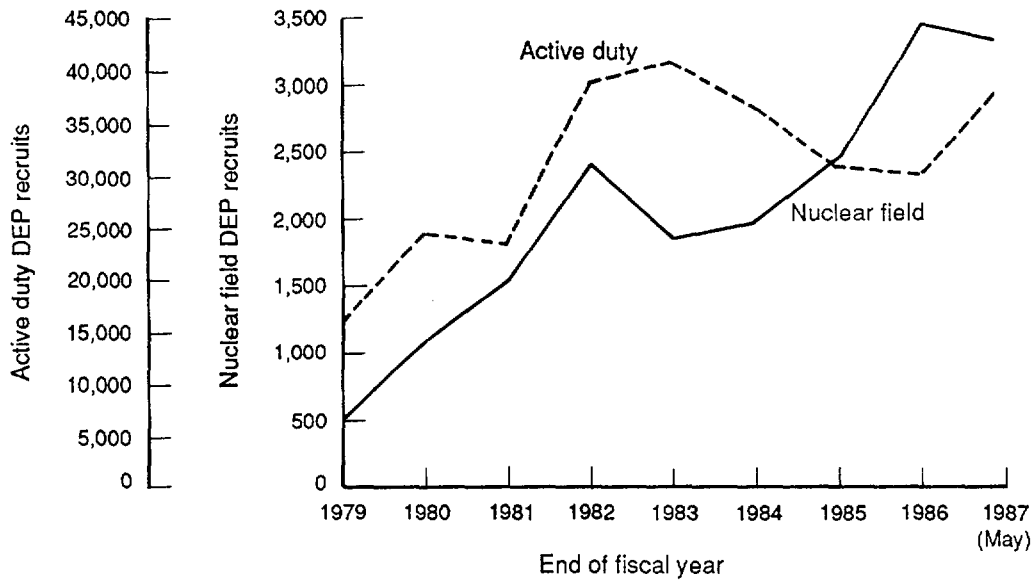

FIG. 2: ACTIVE DUTY AND NF DEP

1. Changes in the characteristics of DEP recruits are addressed in the next section.
2. Because of seasonal fluctuations in recruiting and accessions, the value for May 1987 is expected to be larger than for the end of the fiscal year, other things being equal.

The relative success of NF recruiting, as measured by the increase in DEP size during FY 1986, did not occur in other programs. In contrast to the growth of the NF DEP during FY 1986, the size of the DEP for all active-duty Navy recruits slightly decreased. This decrease probably indicates a reallocation of recruiting effort toward NF recruiting that is independent of the number of recruiters and the general recruiting climate.

Growth of the DEP is expected to be associated with an increase in the average length of time in the DEP, and a decrease in the proportion of direct shipments. Because first-term attrition is negatively related to DEP participation, shipments from DEP are preferred to direct shipments. Comparison of NF DEP posture before and after the implementation of the TEB is thus an important component of its evaluation. An increase in direct shipments from DEP would reduce the overall effectiveness of rephasing accessions, and vice versa.

Tables 3 through 14 present the distribution of original contract dates, by month, for accessions from January 1982 through May 1987.[1] The data source for these tabulations is the PRIDE Reservation and Cancellation files provided by CNRC-Code 70 on both a monthly and fiscal year basis. These files contain confirmed accessions ("reservation" file) and cancellations ("cancellation" file) for each period.

Unfortunately, the reservation file does not give the original enlistment date. The date of enlistment (reservation) is updated with each change to the contract made by the recruit. A record of the old reservation is written to the cancellation file when any changes are made in the terms of the enlistment. Combining the files to create a history of transactions for each individual allows an original contract date to be identified, along with changes in enlistment program or scheduled accession month.

At the beginning of the test evaluation, monthly versions of these files were accumulated. A comparison of the yearly file with the monthly files for FY 1986 reveals agreement on the number of accessions, but not on the date of the original contract. A large number of contracts that appear as direct shipments on the yearly file show earlier contract dates on the monthly files. Monthly data are not available before FY 1986, and yearly data are not available after FY 1986. Therefore, the fractions reported in tables 6 through 9 for FY 1987 are not comparable to the earlier data produced from yearly versions of the file. They are comparable to the data presented in [1] and [2].

1. The test program was scheduled to expire in March, but it remained in effect through the spring of 1987. The most recent data available is for May.

TABLE 3

FRACTION OF NUCLEAR FIELD ACCESSIONS
BY MONTH OF ORIGINAL ENLISTMENT CONTRACT
(Shipment month, October)

	1982	1983	1984	1985	1986
October	0.02	0.03	0.08	0.04	0.03
September	0.06	0.07	0.10	0.05	0.04
August	0.14	0.03	0.10	0.10	0.06
July	0.21	0.06	0.14	0.11	0.09
June	0.11	0.06	0.13	0.10	0.08
May	0.08	0.17	0.07	0.18	0.07
April	0.18	0.18	0.08	0.11	0.14
March	0.09	0.12	0.08	0.04	0.22
February	0.04	0.06	0.04	0.06	0.10
January	0.04	0.06	0.05	0.04	0.08
December	0.03	0.07	0.04	0.04	0.03
November	0.01	0.07	0.05	0.08	0.03
October	0.00	0.01	0.03	0.04	0.02
Other	0.00	0.01	0.01	0.01	0.01
Total	1.00	1.00	1.00	1.00	1.00

TABLE 4

FRACTION OF NUCLEAR FIELD ACCESSIONS
BY MONTH OF ORIGINAL ENLISTMENT CONTRACT
(Shipment month, November)

	1982	1983	1984	1985	1986
November	0.06	0.08	0.14	0.10	0.05
October	0.09	0.06	0.13	0.07	0.05
September	0.17	0.13	0.10	0.09	0.05
August	0.23	0.13	0.14	0.12	0.07
July	0.13	0.09	0.09	0.11	0.12
June	0.11	0.09	0.08	0.14	0.07
May	0.05	0.15	0.07	0.10	0.13
April	0.08	0.10	0.06	0.08	0.26
March	0.05	0.07	0.04	0.04	0.10
February	0.01	0.03	0.04	0.03	0.06
January	0.01	0.03	0.03	0.02	0.02
December	0.01	0.02	0.03	0.03	0.01
November	0.01	0.01	0.04	0.05	0.01
Other	0.00	0.01	0.01	0.02	0.00
Total	1.00	1.00	1.00	1.00	1.00

TABLE 5

FRACTION OF NUCLEAR FIELD ACCESSIONS
BY MONTH OF ORIGINAL ENLISTMENT CONTRACT

(Shipment month, December)

	1982	1983	1984	1985	1986
December	0.07	0.15	0.22	0.20	0.05
November	0.12	0.15	0.15	0.11	0.06
October	0.11	0.11	0.09	0.09	0.06
September	0.15	0.12	0.10	0.06	0.04
August	0.15	0.10	0.14	0.11	0.05
July	0.15	0.08	0.06	0.09	0.20
June	0.10	0.05	0.04	0.10	0.11
May	0.07	0.09	0.04	0.06	0.17
April	0.05	0.05	0.04	0.05	0.13
March	0.03	0.05	0.02	0.03	0.08
February	0.01	0.03	0.02	0.01	0.02
January	0.01	0.01	0.02	0.03	0.01
December	0.00	0.02	0.05	0.04	0.01
Other	0.00	0.00	0.01	0.02	0.01
Total	1.00	1.00	1.00	1.00	1.00

TABLE 6

FRACTION OF NUCLEAR FIELD ACCESSIONS
BY MONTH OF ORIGINAL ENLISTMENT CONTRACT

(Shipment month, January)

	1982	1983	1984	1985	1986	1987[a]
January	0.15	0.06	0.12	0.23	0.20	0.07
December	0.11	0.09	0.11	0.17	0.14	0.04
November	0.16	0.09	0.09	0.13	0.08	0.02
October	0.19	0.16	0.08	0.08	0.07	0.04
September	0.16	0.17	0.13	0.07	0.13	0.04
August	0.09	0.10	0.10	0.08	0.08	0.09
July	0.05	0.12	0.07	0.03	0.07	0.15
June	0.03	0.07	0.06	0.03	0.05	0.16
May	0.01	0.05	0.08	0.03	0.04	0.19
April	0.02	0.06	0.06	0.05	0.05	0.11
March	0.02	0.03	0.05	0.03	0.03	0.04
February	0.02	0.01	0.03	0.03	0.02	0.02
January	0.01	0.01	0.02	0.02	0.02	0.02
Other	0.00	0.00	0.01	0.02	0.02	0.01
Total	1.00	1.00	1.00	1.00	1.00	1.00

a. FY 1987 data are not comparable to the other data.

TABLE 7

FRACTION OF NUCLEAR FIELD ACCESSIONS
BY MONTH OF ORIGINAL ENLISTMENT CONTRACT

(Shipment month, February)

	1982	1983	1984	1985	1986	1987[a]
February	0.19	0.08	0.14	0.28	0.19	0.03
January	0.17	0.10	0.18	0.26	0.23	0.07
December	0.23	0.11	0.10	0.10	0.12	0.04
November	0.18	0.18	0.09	0.06	0.08	0.05
October	0.08	0.10	0.12	0.06	0.09	0.09
September	0.06	0.07	0.11	0.05	0.06	0.09
August	0.02	0.11	0.04	0.03	0.06	0.17
July	0.02	0.12	0.05	0.03	0.07	0.12
June	0.01	0.07	0.05	0.03	0.04	0.16
May	0.00	0.03	0.04	0.03	0.02	0.09
April	0.01	0.01	0.03	0.01	0.01	0.05
March	0.01	0.02	0.03	0.03	0.01	0.01
February	0.01	0.01	0.01	0.02	0.01	0.01
Other	0.00	0.00	0.00	0.01	0.01	0.02
Total	1.00	1.00	1.00	1.00	1.00	1.00

a. FY 1987 data are not comparable to the other data.

TABLE 8

FRACTION OF NUCLEAR FIELD ACCESSIONS
BY MONTH OF ORIGINAL ENLISTMENT CONTRACT

(Shipment month, March)

	1982	1983	1984	1985	1986	1987[a]
March	0.17	0.05	0.14	0.31	0.21	0.05
February	0.24	0.04	0.16	0.26	0.21	0.05
January	0.25	0.14	0.15	0.14	0.15	0.09
December	0.19	0.16	0.15	0.05	0.09	0.09
November	0.07	0.16	0.11	0.03	0.07	0.11
October	0.03	0.09	0.06	0.03	0.10	0.08
September	0.02	0.06	0.05	0.02	0.08	0.09
August	0.01	0.12	0.04	0.04	0.02	0.15
July	0.00	0.09	0.06	0.03	0.03	0.11
June	0.00	0.02	0.03	0.03	0.01	0.09
May	0.00	0.03	0.02	0.01	0.01	0.03
April	0.00	0.01	0.03	0.02	0.00	0.02
March	0.01	0.01	0.01	0.02	0.01	0.03
Other	0.00	0.00	0.00	0.01	0.01	0.02
Total	1.00	1.00	1.00	1.00	1.00	1.00

a. FY 1987 data are not comparable to the other data.

TABLE 9

FRACTION OF NUCLEAR FIELD ACCESSIONS
BY MONTH OF ORIGINAL ENLISTMENT CONTRACT

(Shipment month, April)

	1982	1983	1984	1985	1986	1987[a]
April	0.14	0.07	0.21	0.46	0.21	0.05
March	0.23	0.14	0.21	0.24	0.20	0.07
February	0.25	0.19	0.10	0.12	0.15	0.07
January	0.27	0.14	0.13	0.04	0.14	0.13
December	0.05	0.12	0.06	0.01	0.07	0.10
November	0.04	0.08	0.07	0.01	0.09	0.09
October	0.01	0.04	0.04	0.04	0.04	0.07
September	0.00	0.06	0.03	0.02	0.03	0.10
August	0.00	0.10	0.02	0.03	0.01	0.12
July	0.00	0.02	0.04	0.00	0.02	0.08
June	0.00	0.01	0.04	0.00	0.01	0.06
May	0.00	0.02	0.03	0.01	0.01	0.03
April	0.00	0.01	0.02	0.01	0.00	0.02
Other	0.00	0.00	0.01	0.01	0.02	0.01
Total	1.00	1.00	1.00	1.00	1.00	1.00

a. FY 1987 data are not comparable to the other data.

TABLE 10

FRACTION OF NUCLEAR FIELD ACCESSIONS
BY MONTH OF ORIGINAL ENLISTMENT CONTRACT

(Shipment month, May)

	1982	1983	1984	1985	1986
May	0.17	0.07	0.23	0.25	0.19
April	0.15	0.06	0.15	0.28	0.15
March	0.27	0.12	0.09	0.10	0.16
February	0.20	0.13	0.10	0.06	0.14
January	0.12	0.12	0.07	0.04	0.10
December	0.03	0.14	0.06	0.05	0.05
November	0.02	0.06	0.06	0.04	0.05
October	0.01	0.05	0.03	0.02	0.05
September	0.01	0.13	0.05	0.02	0.03
August	0.01	0.06	0.03	0.03	0.01
July	0.00	0.00	0.03	0.02	0.01
June	0.01	0.02	0.03	0.05	0.01
May	0.00	0.03	0.04	0.02	0.03
Other	0.00	0.00	0.02	0.02	0.02
Total	1.00	1.00	1.00	1.00	1.00

TABLE 11

FRACTION OF NUCLEAR FIELD ACCESSIONS
BY MONTH OF ORIGINAL ENLISTMENT CONTRACT

(Shipment month, June)

	1982	1983	1984	1985	1986
June	0.12	0.09	0.09	0.06	0.18
May	0.10	0.05	0.10	0.12	0.04
April	0.16	0.09	0.11	0.10	0.03
March	0.09	0.10	0.09	0.06	0.05
February	0.08	0.07	0.10	0.03	0.05
January	0.09	0.08	0.06	0.06	0.05
December	0.05	0.07	0.07	0.10	0.05
November	0.02	0.08	0.06	0.08	0.05
October	0.04	0.07	0.05	0.04	0.05
September	0.06	0.05	0.04	0.05	0.05
August	0.05	0.05	0.04	0.06	0.07
July	0.06	0.06	0.12	0.10	0.10
June	0.08	0.14	0.09	0.13	0.22
Other	0.00	0.00	0.00	0.01	0.01
Total	1.00	1.00	1.00	1.00	1.00

TABLE 12

FRACTION OF NUCLEAR FIELD ACCESSIONS
BY MONTH OF ORIGINAL ENLISTMENT CONTRACT

(Shipment month, July)

	1982	1983	1984	1985	1986
July	0.13	0.06	0.09	0.04	0.20
June	0.11	0.04	0.11	0.08	0.05
May	0.10	0.02	0.08	0.07	0.02
April	0.15	0.07	0.07	0.08	0.02
March	0.14	0.06	0.09	0.06	0.01
February	0.07	0.07	0.07	0.05	0.00
January	0.07	0.08	0.05	0.06	0.01
December	0.05	0.08	0.07	0.09	0.03
November	0.03	0.06	0.06	0.12	0.04
October	0.02	0.08	0.05	0.08	0.14
September	0.03	0.13	0.06	0.04	0.14
August	0.06	0.14	0.11	0.11	0.18
July	0.04	0.12	0.09	0.11	0.15
Other	0.00	0.00	0.01	0.01	0.01
Total	1.00	1.00	1.00	.98	1.00

TABLE 13

FRACTION OF NUCLEAR FIELD ACCESSIONS
BY MONTH OF ORIGINAL ENLISTMENT CONTRACT

(Shipment month, August)

	1982	1983	1984	1985	1986
August	0.07	0.06	0.05	0.05	0.10
July	0.09	0.05	0.07	0.09	0.05
June	0.13	0.04	0.06	0.06	0.03
May	0.16	0.02	0.03	0.06	0.02
April	0.11	0.03	0.06	0.10	0.02
March	0.10	0.09	0.11	0.08	0.06
February	0.10	0.14	0.07	0.11	0.09
January	0.06	0.11	0.11	0.10	0.15
December	0.08	0.11	0.13	0.10	0.23
November	0.03	0.19	0.09	0.07	0.19
October	0.03	0.11	0.08	0.05	0.03
September	0.04	0.01	0.08	0.07	0.01
August	0.00	0.02	0.05	0.05	0.01
Other	0.00	0.00	0.01	0.01	0.01
Total	1.00	1.00	1.00	1.00	1.00

TABLE 14

FRACTION OF NUCLEAR FIELD ACCESSIONS
BY MONTH OF ORIGINAL ENLISTMENT CONTRACT

(Shipment month, September)

	1982	1983	1984	1985	1986
September	0.09	0.02	0.05	0.04	0.02
August	0.09	0.04	0.10	0.08	0.06
July	0.10	0.03	0.04	0.05	0.05
June	0.11	0.06	0.05	0.06	0.04
May	0.14	0.03	0.05	0.10	0.02
April	0.13	0.09	0.05	0.11	0.03
March	0.07	0.15	0.04	0.07	0.06
February	0.08	0.14	0.11	0.09	0.16
January	0.05	0.10	0.11	0.10	0.22
December	0.05	0.15	0.12	0.11	0.18
November	0.03	0.10	0.13	0.06	0.14
October	0.03	0.06	0.09	0.08	0.00
September	0.02	0.03	0.05	0.04	0.02
Other	0.00	0.00	0.01	0.01	0.00
Total	1.00	1.00	1.00	1.00	1.00

The distribution of original contract dates for spring accessions shows a relatively large shift toward earlier contract dates in FY 1986 relative to FY 1985. The distribution of these contract dates for FY 1986 is similar to that of FY 1984, but the contract dates for spring 1986 accessions are generally later than those in FY 1983. The early accumulation of DEP recruits for summer shipment was greater in 1986 than in any of the four preceding years. Winter and fall accessions for FY 1986 did not accumulate as rapidly as for FY 1983 and FY 1984.

Figures 3 through 14 illustrate the differences between FY 1985 and FY 1986 cumulative rates of enlistment contracts for each month. Overall, they show a reduction in the incidence of direct shipments, and longer average time in the DEP. The only exception to this pattern is the higher percentage of direct shipments in the summer of 1986. This difference may, however, be balanced by the fact that a larger fraction of commitments for each of these months was obtained by the end of February 1986 relative to 1985.

CHANGES OF ENLISTMENT PROGRAM AND SEASON OF ENLISTMENT

The data used to examine the DEP experience of NF recruits can also be used to identify individuals whose original enlistment was in some other field, as well as changes in scheduled accession dates for NF recruits. Shifting recruits from some other enlistment program into the NF is less desirable than obtaining original enlistments in the NF program. Tables 15 through 19 show the incidence of changes in enlistment program and season of entry for NF accessions from 1983 through the spring of 1987. For example, 100 NF accessions during the spring of 1983 had earlier reservations with a planned accession date in the winter, summer, or fall. The number of changes involving NF accessions during 1986 is less than half that of the previous two years, and about half that of 1983. For 1984 and 1985, those recruits shifting from other programs into the NF, but keeping the same season of accession comprise the largest category. Because of a relatively large shift of NF recruits from the winter of 1987 to the fall of 1986, the seasonal changes within the same program are more frequent in 1986 than program changes within the same season for 1986. The available data for 1987 show a continuation of this change in the magnitude and pattern of pre-accession enlistment changes by NF recruits. The change coincides with, but may not be caused by, the TEB program.

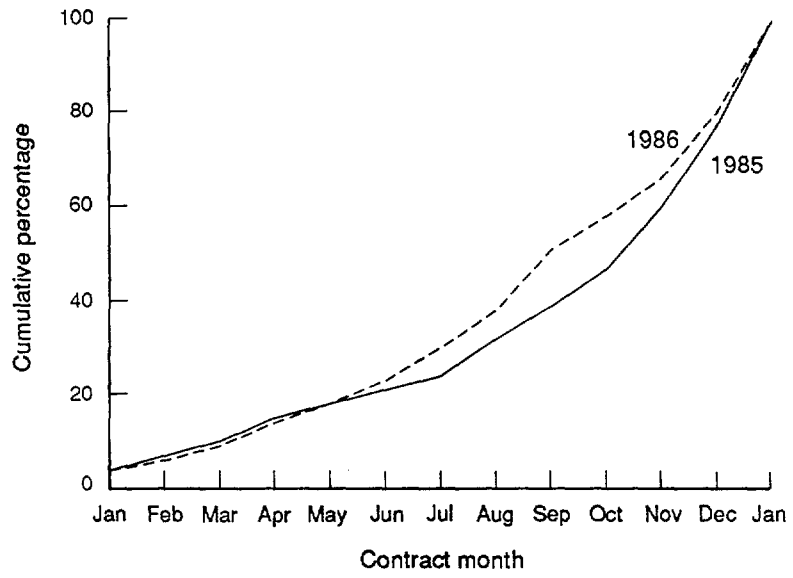

FIG. 3: JANUARY DEP SHIPMENTS

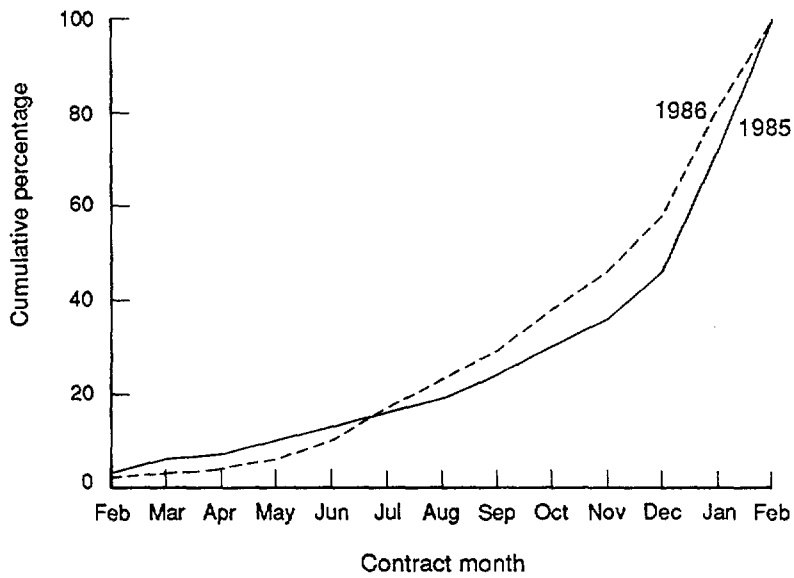

FIG. 4: FEBRUARY DEP SHIPMENTS

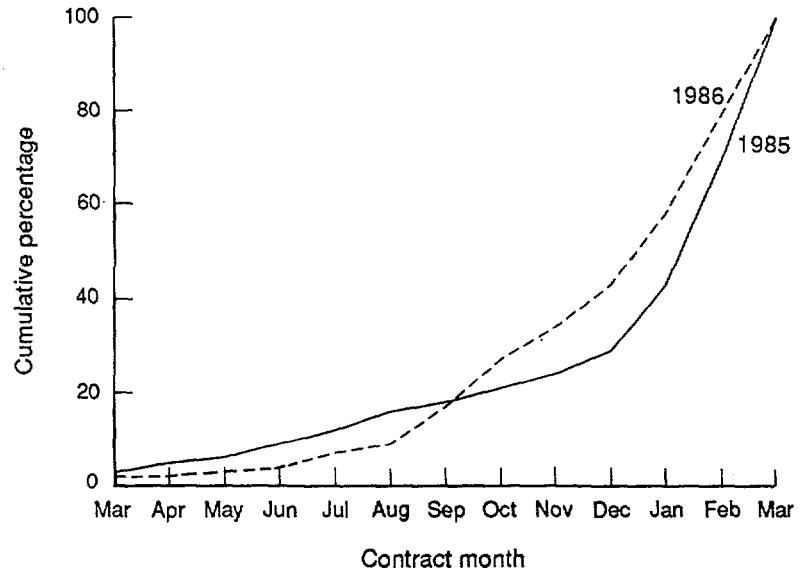

FIG. 5: MARCH DEP SHIPMENTS

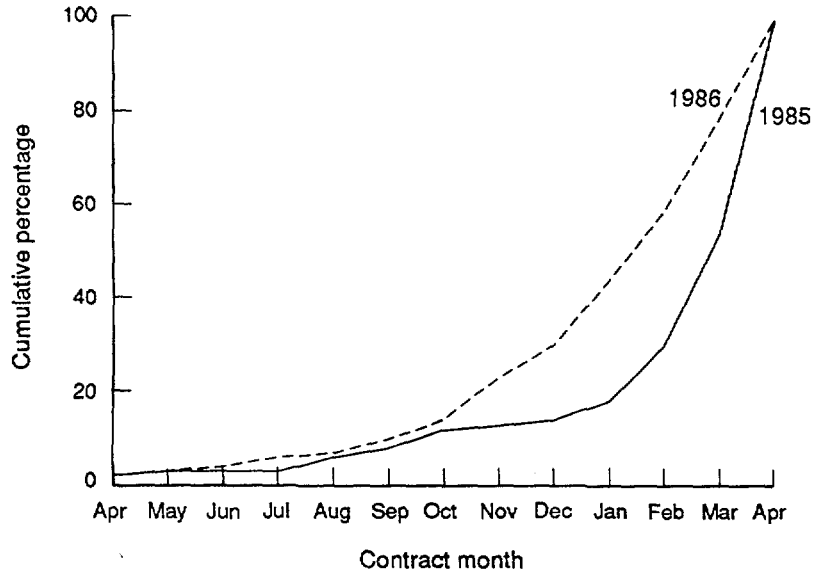

FIG. 6: APRIL DEP SHIPMENTS

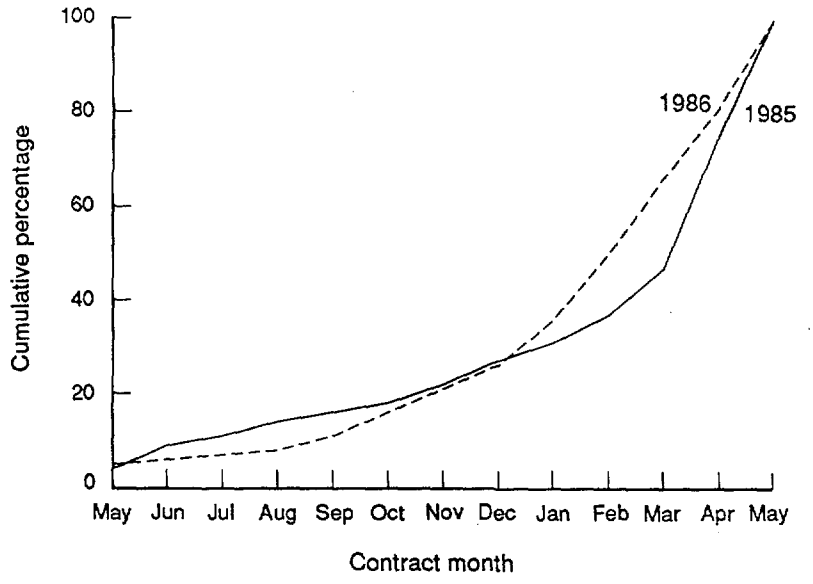

FIG. 7: MAY DEP SHIPMENTS

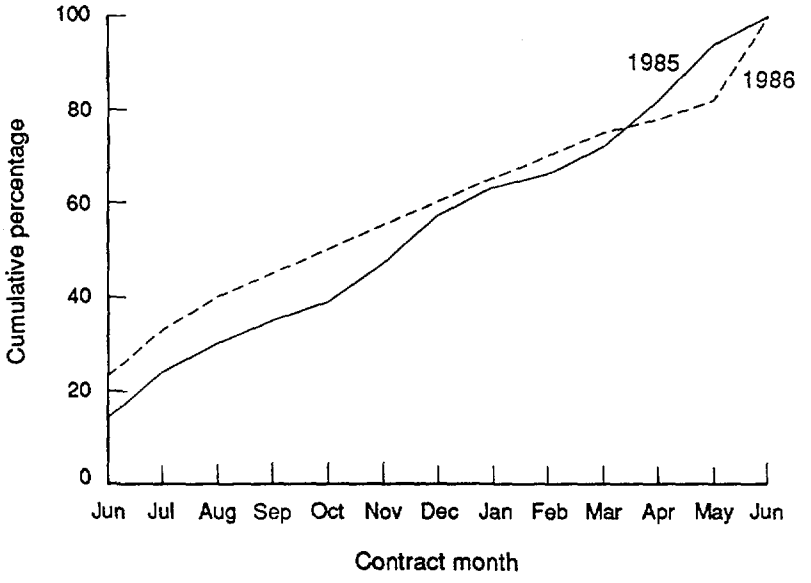

FIG. 8: JUNE DEP SHIPMENTS

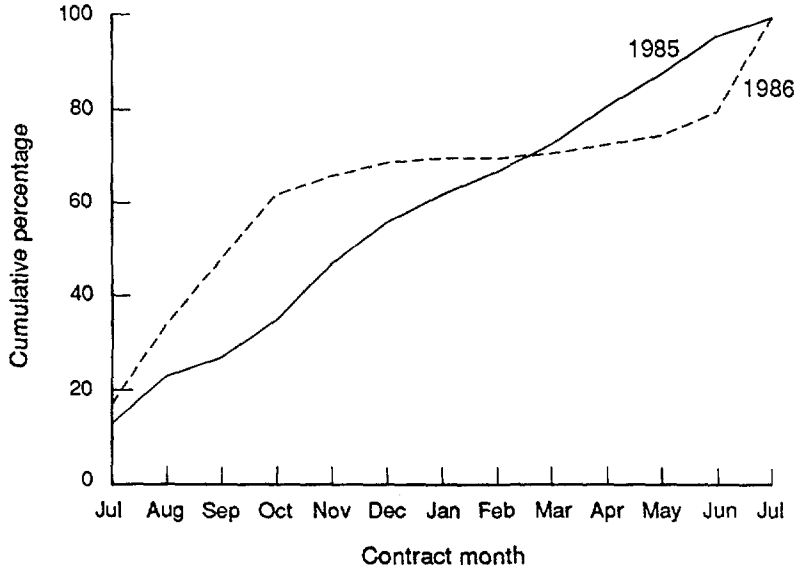

FIG. 9: JULY DEP SHIPMENTS

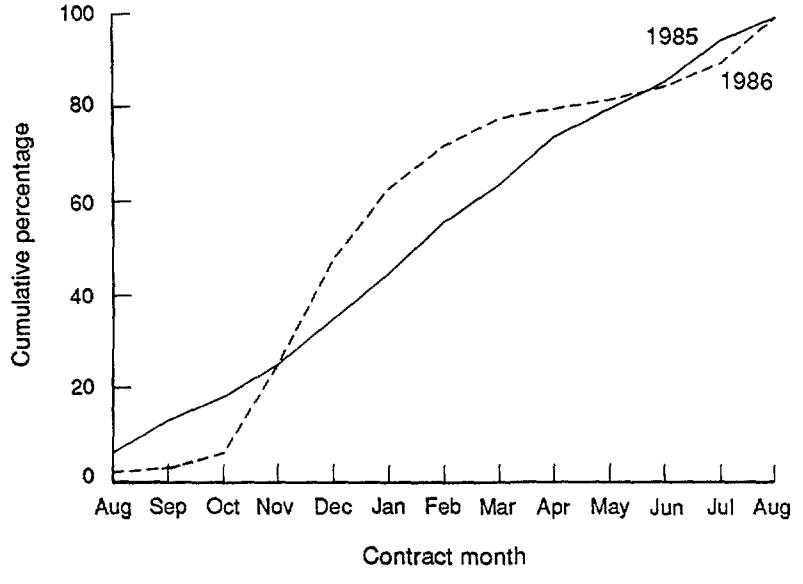

FIG. 10: AUGUST DEP SHIPMENTS

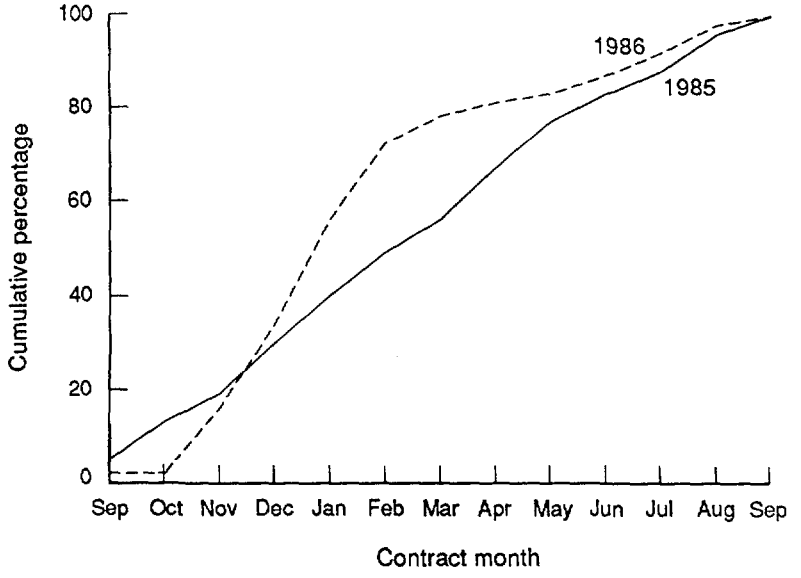

FIG. 11: SEPTEMBER DEP SHIPMENTS

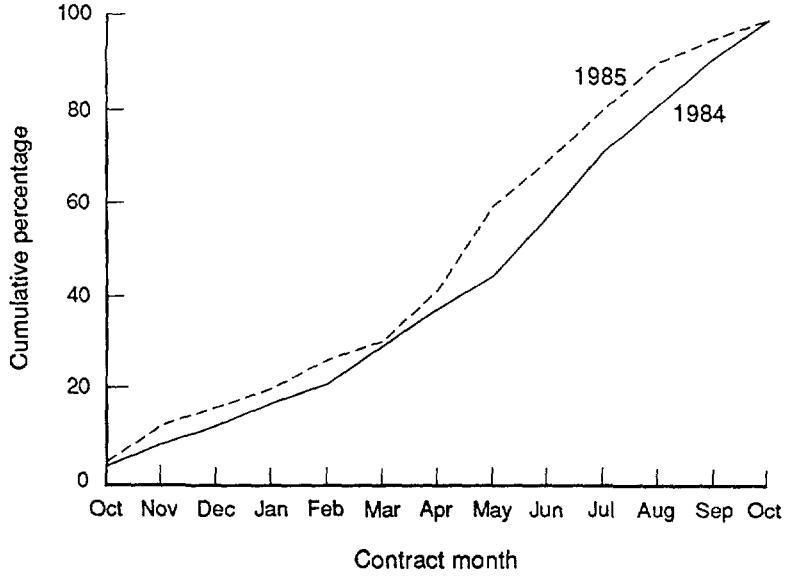

FIG. 12: OCTOBER DEP SHIPMENTS

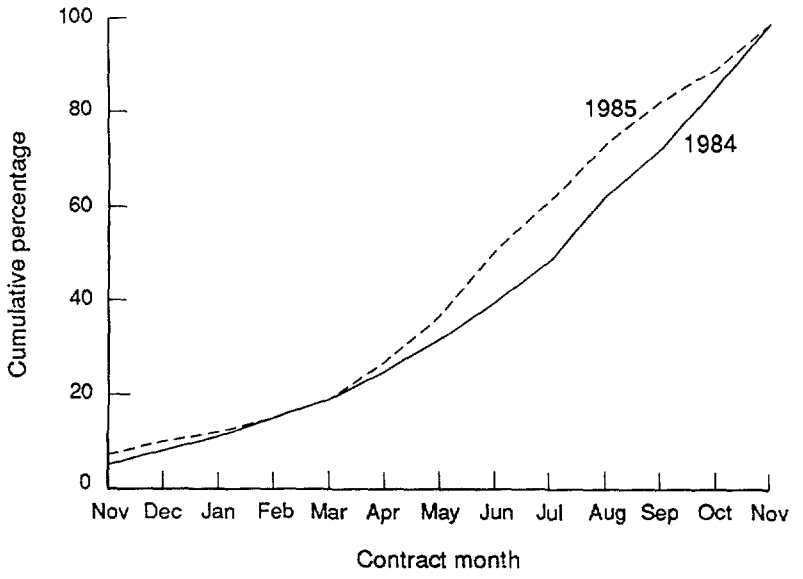

FIG. 13: NOVEMBER DEP SHIPMENTS

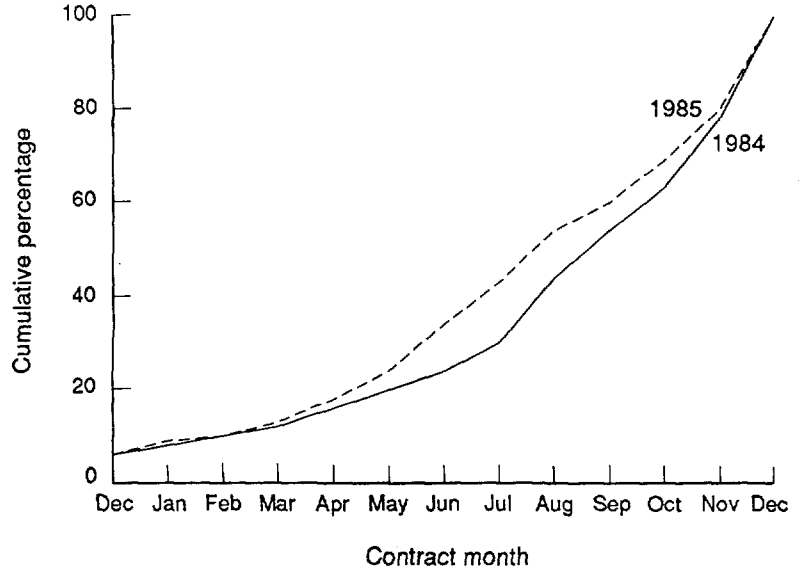

FIG. 14: DECEMBER DEP SHIPMENTS

TABLE 15

1983 NUCLEAR FIELD RECRUITS WITH CHANGES IN ENLISTMENT PROGRAM AND SEASON OF ENTRY BEFORE ACCESSION

Change	Winter	Spring	Summer	Fall	Total
Same program, different season	135	100	188	138	561
Different program, same season	87	83	208	183	561
Different program, different season	118	102	160	175	555
Total	340	285	556	496	1,677

TABLE 16

1984 NUCLEAR FIELD RECRUITS WITH CHANGES IN ENLISTMENT PROGRAM AND SEASON OF ENTRY BEFORE ACCESSION

Change	Winter	Spring	Summer	Fall	Total
Same program, different season	99	77	159	168	503
Different program, same season	122	153	274	188	737
Different program, different season	177	111	210	160	658
Total	398	341	643	516	1,898

TABLE 17

1985 NUCLEAR FIELD RECRUITS WITH CHANGES IN ENLISTMENT PROGRAM AND SEASON OF ENTRY BEFORE ACCESSION

Change	Winter	Spring	Summer	Fall	Total
Same program, different season	88	70	270	183	611
Different program, same season	223	136	275	169	803
Different program, different season	152	51	114	95	412
Total	463	257	659	447	1,826

TABLE 18

1986 NUCLEAR FIELD RECRUITS WITH CHANGES IN ENLISTMENT PROGRAM AND SEASON OF ENTRY BEFORE ACCESSION

Change	Winter	Spring	Summer	Fall	Total
Same program, different season	73	48	65	158	344
Different program, same season	105	53	105	49	312
Different program, different season	97	37	24	43	201
Total	275	138	194	250	857

TABLE 19

1987 NUCLEAR FIELD RECRUITS WITH CHANGES IN ENLISTMENT PROGRAM AND SEASON OF ENTRY BEFORE ACCESSION

Change	Winter	Spring	Total
Same program, different season	135	137	272
Different program, same season	62	84	146
Different program, different season	83	117	200
Total	280	338	618

AGE, MENTAL GROUP, AND EDUCATIONAL STATUS OF NF ACCESSIONS

Age, mental group,[1] and educational status are other characteristics of NF recruits that might be affected by the implementation of the TEB. The age composition of accessions may be affected because virtually all NF accessions have high school diplomas. Because high school graduation typically occurs in early summer, larger winter and spring accessions must be drawn from a group that has graduated at least six months before accessing. The TEB could result in a slight increase in the average age of accessions. On the other hand, no change in policy regarding educational status or other qualifying criteria was implemented with the test.

Table 20 presents percentages of accessions by mental group and age for the period of the TEB. The percentages for FY 1985 and the average for the relevant month for FY 1981 through FY 1984 are given for comparison. The mental group composition of NF accessions has been quite stable over the period since 1981. There is slight variation (up to 5 percentage points) in the shares of the two top mental groups. Spring accessions of FY 1986 are similar to the 1981 through 1984 average. There appears to be no significant change in either the mental group composition of NF accessions or in the age distribution of NF recruits during the TEB experiment.

1. Mental group is based on the recruit's scores on tests in the Armed Services Vocational Aptitude Battery (ASVAB) taken before an enlistment contract is signed. Virtually all NF accessions are drawn from the top two mental group categories, mental groups 1 and 2.

TABLE 20

MENTAL GROUP AND AGE COMPOSITION OF NUCLEAR FIELD ACCESSIONS

Month of accession	Fiscal year	Percentage by mental group		Percentage by age		
		1	2	17-18	19-20	21-22
October	1985	23	75	50	30	14
	1986	24	73	54	26	11
	1987	20	77	61	23	9
	Average	24	73	47	33	13
November	1985	27	72	41	31	18
	1986	22	74	42	34	15
	1987	28	69	49	29	12
	Average	26	73	36	38	17
December	1985	25	72	27	43	17
	1986	26	70	38	36	18
	1987	27	71	37	37	13
	Average	24	74	32	41	18
January	1985	26	72	34	37	21
	1986	25	73	31	38	21
	1987	30	68	37	36	16
	Average	26	73	29	43	19
February	1985	29	69	25	43	19
	1986	30	69	21	47	18
	1987	28	69	26	47	15
	Average	27	72	27	41	21
March	1985	29	69	20	46	21
	1986	25	73	23	38	25
	1987	35	65	23	44	19
	Average	30	69	20	45	23
April	1985	31	68	17	43	23
	1986	25	73	18	42	25
	1987	36	63	19	46	22
	Average	30	69	20	45	23
May	1985	30	67	21	43	23
	1986	29	70	23	43	20
	Average	27	71	26	45	18

TABLE 20 (Continued)

Month of accession	Fiscal year	Percentage by mental group 1	2	Percentage by age 17-18	19-20	21-22
June	1985	19	78	72	17	6
	1986	22	75	79	12	7
	Average	21	76	63	22	10
July	1985	19	78	77	14	6
	1986	15	81	81	13	3
	Average	20	78	67	21	8
August	1985	21	77	71	18	7
	1986	20	76	79	13	6
	Average	19	78	66	21	8
September	1985	19	78	70	20	5
	1986	25	73	78	15	2
	Average	21	77	62	24	9

NOTE: Averages are calculated for FY 1981 through FY 1984.

EFFECT OF THE TEB ON SEASON OF ACCESSION

The TEB is based on the proposition that larger incentives for spring accession compared to those at other times of the year will assist recruiters in obtaining a greater number of accessions in the spring months. For a given number of desired accessions in the spring, planners may need to evaluate whether a larger EB for spring accession is desirable. An example is provided by the plan for FY 1988. Because the total goal for FY 1988 is about 800 larger than for FY 1987 and because the accession goals are more evenly distributed by month, the total number of planned spring accessions are about 250 greater than the plan for FY 1987. Whether or not this increase requires an increase in the TEB for the spring of FY 1988 depends on the recruiting environment and resources, the size of the NF DEP, and the expected effect of the TEB.

On the other hand, a reduction in the TEB in the summer is expected to reduce the attractiveness of accession in the summer relative to other times of the year. It also may reduce total enlistment supply if the demand for season of accession is very inelastic and the supply of recruits is sensitive to bonus levels. In these circumstances, some recruits who would have enlisted in the NF program for summer accession

may find that, with the lower bonus, another (non-Navy) option becomes more attractive.

Measuring the effect of the TEB on the ability of recruiters to attain a more evenly distributed monthly accession profile is complicated by a number of statistical and institutional factors. An analytical complication is that only two observations are available of accessions under the TEB in the difficult spring months. In the absence of other complications, this would make the reliable identification of a separate effect for the TEB derived from aggregate monthly data difficult. Disaggregating the national data to the area level provides an additional source of variation, but the analysis is further complicated by the necessity to control for other changes in the recruiting environment. A number of such changes are known to have occurred, including the following:

- The constraint on NF accessions in the winter and spring months was removed in FY 1986. The number of NF accessions has historically been closely controlled, both nationally and at the area level. Accessions have generally been allowed to exceed monthly goals by at most two in each recruiting area. For this reason, it is difficult to know how many NF recruits could have been accessed in a given historically observed environment. The accession results for FY 1986 therefore include the effect of removing these constraints, which is difficult to estimate reliably.

- The number of recruiters increased substantially during the period of the TEB. Having more recruiters enhances the likelihood of achieving a less seasonal profile of accessions, other things being equal.

- During the TEB, NF recruiting was encouraged to a greater extent than before, both informally and through the recruiting command's district competition system. Particular emphasis was placed on increasing accessions in the winter and spring of FY 1986. This shift in recruiting effort, as illustrated in figure 2, is particularly important and difficult to quantify.

- Because of the growing size of the NF DEP, and the management problems caused by a relatively large DEP, the size of the NF DEP was capped in the fall of 1986 at about 3,400 recruits. This cap has the effect of limiting the number of new contracts to approximately the number of shipments in each month of FY 1987.

- The accession ceilings allowing two excess shipments per month per area were reimposed in FY 1987, after having been lifted during the winter and spring of FY 1986.

Large redistributions of accession goals among the areas for the spring of 1987 accompanied this change.

The combined effect of these changes is to make reliable determination of the impact of the TEB, per se, on accession patterns difficult. Clearly, however, the combined effect was a successful rephasing of NF accessions with lower total bonus expenditures.

POTENTIAL CHANGES IN THE TEB

The TEB for NF recruits has been shown to provide sufficient incentive, when combined with observed levels of recruiting effort, to achieve the desired FY 1987 phasing of NF accessions. At the same time, it saves bonus expenditures relative to a nontargeted EB of $5,000 per recruit. It has not been established that the current structure or levels of the bonus are sufficient to achieve future NF accession plans, nor that they were necessary to achieve the 1987 phasing. Some qualitative implications for changes in the TEB derived from the test experience, however, can be drawn.

First, and most importantly, the summer bonus could be further reduced without significantly affecting the quality or DEP experience of the summer accession cohort. The reduction in the summer bonus from $5,000 to $3,750 was associated with a faster accumulation of enlistments for summer accessions during FY 1986 than in any other recent year. FY 1987 summer accession slots were 97 percent filled by February 1987. No difficulty in recruiting for the summer is apparent in the statistics for the TEB period. A further reduction of the current summer bonus from $3,750 to $3,000 would provide an additional savings of about the same magnitude ($1.2 million) as the savings provided by the current TEB relative to a nontargeted EB of $5,000. Such a reduction in the summer TEB is unlikely to reduce the supply of recruits below summer accessions planned for FY 1988.

Second, if the TEB is reduced in the summer, it may be possible (depending on recruiting conditions and size of the NF DEP) to reduce the maximum bonus in the spring to the current DOD limit of $5,000, while maintaining a workable seasonal differential. Such a program would be much less expensive than the current TEB, but would entail a higher risk of not being able to achieve the desired phasing of accessions. In this case, the program could be administered at Navy discretion. A related point is that the amount of the TEB and the seasonal differentials necessary to achieve any given accession profile depend on other recruiting factors. In principle, the larger the NF DEP, the number of recruiters, and the proportion of recruiting effort devoted to the NF, the smaller the necessary TEB amounts, at least temporarily.

Third, application of the TEB concept to other occupational specialities currently receiving an EB would save additional bonus expenditures. The resulting savings would be proportional to the seasonality of accessions in these occupations. It is not necessary to rephase accessions to target certain seasons for lower or higher bonuses. In

fact, reducing the seasonality of accessions will reduce the savings in enlistment bonuses as more individuals qualify for the higher rates. If preferences for occupational specialty among recruits are weak, differences in bonus amounts between programs may affect the relative difficulty of recruiting in the affected programs. In addition, issues of equity concerning bonuses offered to recruits in different programs at the same (or different) time(s) of year may arise.

CONCLUSION

The TEB experiment for NF recruits conducted during FY 1986 and FY 1987 was successful as judged by the following criteria:

- The desired change in the seasonal pattern of accessions was achieved. Preliminary plans for more level-loading of FY 1988 NF accessions are based on the perceived success of the program.

- The TEB saves bonus expenditures relative to a nontargeted EB of $5,000. The average TEB for FY 1987 will be approximately $4,757.

- The size of the NF DEP grew substantially during the period of the test, while the overall DEP size remained constant. The average length of time in the DEP increased during the test. Furthermore, much less changing of enlistment contracts was exhibited among NF recruits in the DEP during the TEB test period.

- No significant changes in the indicators of recruit quality for NF accessions were observed during the test.

- Although it has not been possible to reliably estimate the relative contribution of monetary differences in the TEB to this success, some changes in the program to provide additional savings should be considered:

  - Reduction in the size of the summer TEB

  - Expansion of the program to other occupational categories already receiving enlistment bonuses

  - Conditional on recruiting conditions and accession requirements, reduction in the maximum bonus level to the current DOD guidelines of $5,000, while maintaining a seasonally targeted bonus.

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REFERENCES

[1] CNA Research Memorandum 86-89, *Evaluationof the Targeted Enlsitment Bonus (TEB) for Nuclear Field Recruits: October 1985 through April 1986*, by Timothy W. Cooke, Apr 1986 (27860089)[1]

[2] CNA Research Memorandum 86-220, *Evaluation of the Targeted Enlistment Bonus for Nuclear Field Recruits: October 1985 through July 1986*, by Timothy W. Cooke, Oct 1986 (27860220)

[3] SAS Institute, Inc. *SAS/ETS User's Guide, Version 5.* Cary, NC: SAS Institute, Inc., 1984

1. The numbers in parentheses are internal CNA control numbers.

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APPENDIX A

NUCLEAR FIELD ACCESSION GOAL, 1974 THROUGH 1987

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TABLE A-1

NUCLEAR FIELD ACCESSION GOAL, 1974-1987

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1974	450	350	300	250	250	490	650	650	360	360	250	170	4,530
1975	350	300	250	250	200	500	600	600	550	400	250	170	4,420
1976	350	280	250	250	200	500	574	598	501	405	425	209	4,542
1977	356	310	280	270	220	650	760	800	800	600	335	220	5,601
1978	450	300	280	280	220	650	840	840	840	541	300	228	5,769
1979	378	250	260	265	230	650	752	752	752	483	261	203	5,236
1980	429	296	301	303	242	586	751	752	751	483	267	200	5,361
1981	421	294	293	295	233	750	750	746	758	500	278	238	5,556
1982	322	280	338	260	254	556	898	714	700	456	454	316	5,548
1983	408	306	271	305	243	514	644	466	818	318	470	324	5,087
1984	387	294	353	280	237	616	801	495	410	461	540	402	5,276
1985	520	446	371	250	250	517	687	783	751	408	436	416	5,835
1986	419	410	355	281	302	532	650	510	489	414	441	420	5,223
1987	400	400	350	330	350	500	530	502	463	373[a]	488[a]	442[a]	5,128
Average	403	323	304	276	245	572	706	658	639	443	371	283	5,223

a. These are preliminary figures. All the preliminary FY 1988 goals are presented in table 1 of the main text.

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APPENDIX B

SEASONAL VARIATION OF TRAINING DELAYS

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APPENDIX B

SEASONAL VARIATION OF TRAINING DELAYS

This evaluation is concerned only with the TEB, not with the cost-effectiveness of the policy of level-loading NF recruits. TEB expenditures are a relatively small part of the cost of procuring and training NF petty officers. The rephasing of accessions that the TEB is designed to facilitate is believed to be desirable because it will allow a reduction in training costs. In particular, the time spent on activities not in the training pipeline, for example, awaiting instruction, is expected to be reduced by a less seasonal accession profile. As an adjunct to this evaluation, seasonal variation in time awaiting instruction and elapsed time to Nuclear Power (NP) school were examined for NF recruits.

NF accession data were matched with Student Master File (SMF) records that follow the training history of each recruit.[1] Tabulations of days awaiting instruction for Nuclear Power school and a recruit's first A-school appear in table B-1. The remarkable characteristic of these data is the virtual absence of days awaiting instruction for Nuclear Power school since FY 1982--regardless of the month of accession. Table B-1 also presents the number of days elapsed between accession and the start of Nuclear Power school for NF recruits by month of accession. These figures show some seasonal variation, with accessions in May through September having the shortest elapsed time to Nuclear Power school, despite the relatively large size of the summer cohort. A small amount of seasonal variation is seen in days awaiting instruction for the first A-school course in the relevant NF pipeline. A slight increase appears in the fall and winter months.

These data on NF training do not support the proposition that days awaiting instruction for NF recruits can be saved by rephasing accessions out of the summer and into the spring. There are, however, other ways in which a level-loaded accession profile can provide a savings in training cost. To accommodate seasonal surges in training requirements, the number of classes must be increased. Some adjustment costs may be associated with varying the size of the program. These costs would be saved by a more level training load. Alternatively, if NF students receive A-school seating priority, it may be that NF surges in training requirements lead to increased days awaiting instruction for recruits not in the NF program. Neither of these hypotheses is examined further in this evaluation.

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1. See CNA Research Memorandum 86-90, *Specialized Skill Training of Enlisted Navy Personnel: A Historical Account*, by Aline O. Quester, et al., Apr 1986, for a description of this training data base.

TABLE B-1

DAYS BEFORE AND AWAITING INSTRUCTION FOR NF RECRUITS:
OCTOBER 1982-OCTOBER 1985

Date of accession (month/ year)	Number arriving at NP school	Number arriving at A school	Expected average days before first A-school class	Actual average days before first A-school class	Average days awaiting instruction at first A-school	Average days before NP school	Average days awaiting instruction at NP school
10/82	332	435	59.2	69.4	2.6	338.7	7.3
11/82	330	427	58.1	66.2	2.9	349.8	13.8
12/82	245	299	57.2	62.0	2.5	335.6	14.4
1/83	314	385	60.5	65.7	2.6	328.6	8.4
2/83	225	279	60.7	65.9	2.4	334.5	6.2
3/83	199	254	58.1	62.2	2.4	321.4	5.1
4/83	238	292	58.2	61.1	2.6	324.2	2.6
5/83	177	225	59.0	61.3	2.1	298.0	3.2
6/83	421	522	58.1	61.6	2.2	272.3	4.4
7/83	527	627	57.0	59.8	3.1	283.9	1.2
8/83	367	458	58.2	61.9	2.4	300.8	0.4
9/83	483	592	58.1	63.0	3.6	308.1	0.1
10/83	245	310	58.2	69.9	3.0	330.1	0.0
11/83	358	444	58.3	64.1	3.2	330.4	0.4
12/83	246	316	57.1	62.2	2.5	322.3	0.8
1/84	289	369	59.4	63.0	2.6	322.8	0.7
2/84	221	276	59.4	62.6	2.1	332.3	0.0
3/84	265	334	58.0	59.5	2.4	304.6	0.0

TABLE B-1 (Continued)

Date of accession (month/ year)	Number arriving at NP school	Number arriving at A school	Expected average days before first A-school class	Actual average days before first A-school class	Average days awaiting instruction at first A-school	Average days before NP school	Average days awaiting instruction at NP school
4/84	188	260	58.6	61.3	2.6	319.8	0.0
5/84	183	222	58.3	62.1	2.6	288.4	0.0
6/84	423	582	58.0	63.8	3.0	266.5	0.0
7/84	551	735	57.3	61.2	2.7	286.8	0.0
8/84	369	479	58.0	61.6	1.6	300.6	0.0
9/84	330	413	58.0	64.1	3.1	303.1	0.0
10/84	344	453	58.0	68.9	5.1	305.0	0.0
11/84	353	505	58.0	62.4	6.0	285.2	0.0
12/84	224	380	57.0	61.7	4.6	282.0	0.0
1/85	280	493	60.2	61.1	4.0	271.4	0.0
2/85	231	407	60.3	61.1	3.7	279.2	0.0
3/85	183	344	58.0	59.5	2.5	260.9	0.0
4/85	--	252	58.5	60.3	2.4	--	--
5/85	--	266	58.0	61.6	2.0	--	--
6/85	--	515	58.0	59.9	2.3	--	--
7/85	--	684	57.2	59.4	3.7	--	--
8/85	--	815	58.0	60.2	5.4	--	--
9/85	--	715	58.0	61.0	7.3	--	--
1/85	--	386	58.0	64.7	5.4	--	--

A cost of rephasing accessions from the later part of the fiscal year to earlier in the year is that the rephased accessions will incur a larger pay and benefit obligation during the year. Each recruit that accesses three months sooner than otherwise must be paid that much longer during the year. The offsetting benefits are that the recruit becomes productive sooner, and if he leaves the service, he can be expected to do so three months sooner. Determination of these relative costs and benefits is beyond the scope of this evaluation.

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This research memorandum contains the last of three evaluations of the Targeted Enlistment Bonus (TEB) for Nuclear Field recruits. The TEB differs from previous enlistment bonuses by varying the bonus amounts according to the season a recruit begins active duty. Historically, Nuclear Field accessions have been characterized by a seasonal surge in the summer months, reflecting the presence of many Nuclear Field recruits for beginning service shortly after obtaining a high school diploma. The TEB is designed to assist recruiters in achieving a more level flow of accessions during the year. It was tested during the 18-month period from October 1985 through March 1987. For the evaluation, Nuclear Field recruits during this period are compared to those of previous years in terms of the phasing of accessions and enlistment contracts, and indicators of recruit quality. Savings associated with the TEB experiment are calculated, and implications for potential changes in the TEB are drawn.

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